

PATENT APPLICATION

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for

STEPPING STRUCTURE FOR AEROBIC EXERCISE

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STEPPING STRUCTURE FOR AEROBIC EXERCISE

[0001] This application claims priority to provisional application No. 60/457,193 filed March 25, 2003.

[0002] The present disclosure relates to a stepping structure for aerobic exercise.

BACKGROUND AND SUMMARY

[0003] Adjustable exercise platforms, also known as Steps, are used by consumers exercising at gyms, exercise classes, and at their homes. By repeatedly stepping onto and off of a Step, a user engages in aerobic exercise. Steps are also frequently used in combination with other types of exercise equipment, such as free weights, to target certain muscles and to vary exercise intensity.

[0004] Current Steps typically consist of a horizontally oriented platform and a number of blocks or riser blocks positioned under the platform. Such riser blocks may span the entire length of the platform in which case one additional riser block is stacked for each incremental height adjustment. Other Steps use pairs of riser blocks positioned under each end of the platform. In such an arrangement, two riser blocks are needed for each incremental height adjustment. An example of such a Step assembly is disclosed in U.S. Patent No. 5,318,489, which is incorporated herein by reference.

[0005] Stepping onto the raised platform repeatedly, as is common with the Steps described above, has been found to effectively target various lower body muscle groups, but may be ineffective in targeting certain lower body muscle groups. It also potentially may result in hypertrophy of certain muscle regions such as the consumer's quadriceps regions hypertrophy.

[0006] The present disclosure relates to an adjustable stepping structure that includes inclined riser blocks for readily elevating and inclining the platform to enable Step exercises to be readily performed on an inclined platform. The present disclosure may also include one or more riser blocks for elevating the inclined riser block.

[0007] Additional features will become apparent to those skilled in the art upon consideration of the following detailed description of drawings exemplifying the best mode as presently perceived.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The detailed description particularly refers to the accompanying figures in which:

[0009] FIG. 1 is a front view of an inclined riser block in accordance with an embodiment of the present disclosure;

[0010] FIG. 2 is a perspective view of the inclined riser block of FIGURE 1 taken from a side of the inclined riser block;

[0011] FIG. 3 is a perspective view of the inclined riser block of FIG 1 taken from an other side of the inclined riser block;

[0012] FIG. 4 is a perspective view of a prior art platform, which is engageable with the inclined riser block of FIGS. 1-3; and

[0013] FIG. 5 is a perspective view of a prior art riser block, which is engageable with the inclined riser block of FIGS. 1-3.

DETAILED DESCRIPTION OF ILLUSTRATIVE EMBODIMENT

[0014] While the present disclosure may be susceptible to embodiment in different forms, there is shown in the drawings, and herein will be described in detail, embodiments with the understanding that the present description is to be considered an

exemplification of the principles of the disclosure and is not intended to limit the disclosure to the details of construction and the arrangements of components set forth in the following description or illustrated in the drawings.

[00015] FIGS. 1-5 illustrate components of an adjustable stepping structure that includes an inclined riser block 10 in accordance with an embodiment of the present disclosure, a platform 12 and a riser block 14. A pair of inclined riser blocks 10 may be matingly engaged with platform 12 to elevate and incline the platform. The illustrated inclined riser block 10 is configured to rest on a flat surface, or alternatively matingly engage a riser block 14 to further elevate the platform 12.

[00016] The inclined riser block 10, the platform 12 and the riser block 14 may have any suitable construction. The illustrated platform 12 and the riser block 14, for example, are commercially available step products, and the illustrated inclined riser block 10 is configured to complement these known constructions of the platform 12 and the riser block 14 in providing the incline feature. Accordingly, the inclined riser block 14 includes a top 20 configured to engage a bottom 22 of the platform 12, and includes a bottom 26 configured to rest on a flat surface 30 or to engage a top 32 of the riser block 14. Thus, the top 20 of the inclined riser block 10 has a configuration similar to the top 32 of the riser block 14 to engage the platform 12, except that the top 20 extends at an incline; and the bottom 26 of the inclined riser block 10 has a configuration substantially similar to the bottom 34 of the riser block 14.

[00017] The illustrated inclined riser block 14 is a rough prototype that includes a riser portion 40 that is constructed of cardboard. A commercial version of the inclined riser block 14 likely will not include cardboard, rather it will have a monolithic construction

and will be constructed using a blow molding process. The inclined riser block 14 may have any other suitable construction and may be constructed in any other suitable manner in accordance with other embodiments.

[00018] The illustrated inclined riser block 10 includes a square or otherwise rectangular flange 50 and a protrusion 52 that has an L-shaped cross section and that extends rectangularly to form a rectangular aperture 54. The flange 50 defines adjacent each corner a rectangular recess 60 and includes four rectangular dimples 62 for engaging the platform 12. The inclined riser block 10 includes sides 64, 66, 68 and 70, with the side 66 extending vertically a greater magnitude than the side 64. The top of the sides 68 and 70 extend at an incline, connecting the sides. The flange 50 and protrusion 52 extend at an incline of 25 degrees, but the angle of incline may have any other suitable magnitude in accordance with other embodiments.

[00019] The illustrated riser block 14 has a configuration substantially similar to the configuration of the inclined riser block 10 except that it does not extend at an incline. The top 32 of the riser block 14 is matingly engageable with the top 20 of the inclined riser block 10. The bottom 26 is matingly engageable with the top 32 of another riser block and that is also configured alternatively to rest on a flat surface. The riser block 14 includes a square or otherwise rectangular flange 80 and a protrusion 82 that has an L-shaped cross section and that extends rectangularly to form a rectangular aperture 84. The flange 80 defines adjacent each corner a rectangular recess 90 and includes four rectangular dimples 92 for engaging the platform 12.

[00020] The bottom 26 of the inclined riser block 10 includes a peripheral rim 94 for contacting the flat surface. The bottom 26 defines a rectangular aperture 100 for receiving

the protrusion of another riser block 14. The aperture 100 is defined by a horizontal square surface and a vertical surface (not shown), with the horizontal surface disposed about the vertical surface. The bottom 26 includes four bosses receivable by the circular recesses of the riser block 14 (not shown). Because the top 20 of the inclined riser block 10 has an inclined configuration and the bottom 26 of the inclined riser block is configured to engage a riser block in a horizontal manner, the inclined riser block 10 is comprised of more material than the riser block 14.

[00021] The riser block 14 is configured to engage additional riser blocks 14, and thus, the bottom 34 of the riser block 14 has a configuration substantially similar to the bottom 26 of the inclined riser block 10. Accordingly, the bottom 34 of the riser block includes a includes an annular rim 110 for contacting the flat surface. The bottom 34 defines a rectangular aperture 112 for receiving the protrusion 52 of the riser block 14. The aperture 112 is defined by a horizontal square surface 120 and a vertical surface 122, with the horizontal surface disposed about the vertical surface. The bottom includes four bosses receivable by the circular recesses of the riser block 14 (not shown).

[00022] The platform 12 includes a top step surface 132 and a pair of ends 134. The bottom surface configured to engage one inclined riser block 10 adjacent each end of the platform. Thus, adjacent each end, the bottom surface defines a rectangular aperture for receiving the protrusion of the riser block 14. The aperture is defined by a horizontal square surface and a vertical surface, with the horizontal surface disposed about the vertical surface. The bottom surface includes four bosses receivable by the circular recesses of the riser block 14 (not shown).

[00023] The inclined riser block 10 and the platform 12 may be matingly engageable in any other suitable and thus may have any suitable construction and configuration in accordance with other embodiments. Similarly, if the riser block 14 is included, the inclined riser block 10 and the riser block 14 may be matingly engageable in any other suitable manner and thus may any other suitable construction and configuration in accordance with other embodiments. For example, the platform 12 and the riser block 14 may be constructed in accordance with the embodiments of U.S. Patent No. 5,318,489 and the inclined riser block 10 may be constructed to matingly engage such platform and such riser block to elevate and incline the platform 12 disclosed therein. Additionally, the inclined riser block 10 and the platform 12 may be constructed in any suitable manner such that a single riser block 10 can be used to elevate and incline the platform.

[00024] While a preferred embodiment of the disclosure is shown and described, it is envisioned that those skilled in the art may devise various modifications and equivalents without departing from the spirit and scope of the disclosure. The present disclosure relates to one or more of the following features, elements, steps, or combinations thereof: